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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/010,822	01/22/1998	GREGORY D. KNOWLTON	3756-399	9133

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EXAMINER

MILLER, EDWARD A

ART UNIT

PAPER NUMBER

3641

DATE MAILED: 07/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/010,822	KNOWLTON ET AL.
	Examiner Edward A. Miller	Art Unit 3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 21 February 2003.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1,2 and 4-32 is/are pending in the application.

4a) Of the above claim(s) 4-12 and 19-24 is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1,2,13-18 and 25-32 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

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1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. The declaration submitted by co-applicant Ludwig remains unpersuasive. Supplementing the reasons set forth previously in Paper No. 17, note the case law set forth in MPEP 716 and following sections, including the nexus requirement, MPEP 716.01(b), that the showing must correspond to the invention as claimed, MPEP 716.02(d), and so on. Here, the claims are regarded as being of the broad, "comprising" scope, whereby the claims are not limited as to the ingredients thereof, or results, compare MPEP 2111.03:

The transitional term "comprising", which is synonymous with "including," "containing," or "characterized by," is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. See, e.g., *Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501, 42 USPQ2d 1608, 1613 (Fed. Cir. 1997) ("Comprising" is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim.) ... *Ex parte Davis*, 80 USPQ 448, 450 (Bd. App. 1948) ("comprising" leaves "the claim open for the inclusion of unspecified ingredients even in major amounts").

See also *In re Janakirama-Rao*, 317 F.2d 951, 954, 137 USPQ 893, 895-96 (CCPA 1963). If an applicant contends that additional steps or materials in the prior art are excluded by the recitation of "consisting essentially of," applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant's invention.

Thus, the claims do not correspond, or are not limited, to the ostensible unexpected results in the declaration, as "comprising" allows added ingredients that may materially change the characteristics of applicants' invention. See also the following paragraphs.

3. Claims 1, 13-18 and 25-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are indefinite and the metes and bounds generally, and certain terms as below, cannot be understood. In this regard, applicants' continued arguments on the breadth or scope of the claims ~~is~~ ^{are} noted. As to another patent, each application is examined individually. That an anomaly is urged in a patent as printed, does not address whether the anomaly might be, for example, a printer error or the result of a clerical error, and such is irrelevant to examination in a different case. Plainly, claim 1, for example, recites "consisting essentially of" in lines 3-4, and that the invention "consisting essentially of" a mixture of 1) oxidizer, and 2) fuel, in simple terms. That's all there is to the invention, in a broad sense. Yet, the very next line, line 5 of claim 1, defines the scope of the oxidizer as "comprising". Clearly, where major additions are permitted that may change the basic characteristics of the composition, is inconsistent with where the basic characteristics may not be changed. Dependent claims thereafter also recite "comprising" scope, including claims 13, 14 and amended claim 25, which depends on claim 1 and which claim 25 recites "comprising" for both the metal fuel (molybdenum) and the oxidizer composition. Where the scope is plainly so inconsistent, the claims are indefinite for failing to properly set forth the metes and bounds thereof. Further, per MPEP sections 2173 et seq on definiteness and indefiniteness, "during patent examination, the pending claims must be given the broadest reasonable interpretation consistent with the specification. *In re Morris*, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Prater*, 415 F.2d 1393, 162 USPQ 541 (CCPA 1969)." Thus, clearly and without doubt, the scope of the claims must be considered as being of the "comprising" variety. Compare *In re Janakirama-Rao*, 317 F.2d 951, 137 USPQ 893 (CCPA 1963), on scope terminology.

See also *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow.... The reason is simply that during patent prosecution when claims can be amended,

ambiguities should be recognized, scope and breadth of language explored, and clarification imposed.... An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process.”). Applicants persist in not removing the uncertainties of claim scope and other matters, notwithstanding clear explanation of such problems.

Near the end of claim 1, for example, are found limitations of “sufficiently intimately mixed” and “sufficient degree of contact.” Similar language is found in claim 26, for example. These terms in the claims are relative terms which render the claims indefinite. These terms are not defined by the claim, and the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. This is particularly since the relative nature or usage is not clear, and it is inconsistent with language ordinarily and previously used in the prior art. Thus, it is not clear what applicants’ intended meaning of “intimately mixed” is, or this is indefinite and incorrect when considered in light of the prior art. For example, as alleged in applicant’s declaration, paragraph 7 regarding Sammons which includes a binder, this term means that the presence of a binder is precluded, as this would preclude an intimate mixture suitable for an autoignition composition. This is contradicted by prior art of record, including Scheffee et al., cited applicants. Scheffee et al. teach that sold propellant compositions as taught therein are suitable for autoignition use for [nonazide] gas generator compositions. Such compositions have a binder. Thus, there being no factual basis or support for this allegation in co-applicant’s declaration (and similar allegations elsewhere therein), and since it is contradicted by the prior art as set forth, this limitation or definition cannot be understood, or accepted as properly limiting the claims. Could this sufficiency of contact relate also to the particle

size, rather than the intermixing? These further have bearing on why the declaration is not convincing, as lacking proper factual basis for the stated opinions.

In claims such as claim 1 and 26, the language regarding the content of the oxidizer composition is not clear. It is not clear what is affirmatively required vs. what is permissible. In the claim 1 Markush group of a “component selected...”, lines 7 et seq, e.g., it is not clear what is part of the Markush group and what is alternative to silver nitrate, e.g. Also, (possibly within the Markush group) language such as “a complex salt nitrate”, “a dried”, “hydrated nitrate” and such similar terms are indefinite and incomplete. It is not clear what is included. If these are intended as part of the Markush group, this is an improper Markush group, which is to be a listings of alternately usable substances, not of plural, indistinct or vague genus which may in turn overlap with other (recited) members of the group. The metes and bounds of such cannot be understood. This is compounded by specification examples (including Ex. 4 on specification page 18 and Ex. 12 on page 21), apparently according to the invention, but which have only organic or chlorate oxidizers.

Additionally, the stoichiometric requirement, where present (e.g. claim 1, line 21, claim 18, line 3, and generally in claims 26-29) is indefinite. This is not stated with sufficient particularity with regard to the stoichiometry. For example, claim 1 refers to the metal and oxidizer, but claim 30 adds an organic amine which is not accounted for by the language. Thus, does the recited stoichiometry take into account only the stated fuel and oxidizer, without regard to other added ingredients that are added as, binders, catalysts, and so on, rather than as the recited fuel and oxidizer? In claim 18, “the stoichiometric amount” also is indefinite, as it is not clear if this likewise ignores components in the [considered as “comprising” scope] claims except for metal fuel and oxidizer. The claims, which contain such functional limitations apparently intended to limit the components of the composition, are also incompatible with the actual claim scope of “comprising”, whether set forth per se in claim

26, or otherwise, as in claim 1. This rejection also incorporates by reference the parts of Paper No. 13, paragraph number 4, which relates to indefiniteness or 112, 2nd paragraph, not specifically set forth herein. See also the next paragraph. The metes and bounds of the claims are not clear.

4. Claims 1, 13-18 and 25-32 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As to the questions above, regarding "sufficiently intimately mixed" and "sufficient degree of contact," and such other questions where lack of adequate specification basis is apparent. These claims are rejected and the specification is objected to as lacking basis for these terms. Applicant has not pointed out basis in the original specification for such language, and such is not apparent. The reference to the specification as to particle size, is a different matter. Things of a single particle size may be well mixed or not. Things of different particle size may identically be well mixed or not. Size and mixing is unrelated. As to particle size, surface area is partly related to particle size. Degree of contact has some relationship to particle size, but small particle size is distinct from, and does not solely determine a degree of contact. Applicant is again required to point out convincing basis for such apparent new matter, or to cancel this terminology. The claims are also rejected as lacking sufficient description basis to adequately teach how to practice the claimed invention. The possibilities are so great, but the support is so limited that it cannot be reasonably determined what the intended invention is, except for a few examples, other than as an invitation to experiment. This is inadequate. See, e.g., MPEP 2164.06. Here, examples are few, but the claims are so broad as to encompass millions of combinations. In this regard, even examples with silver nitrate have a major amount of silver nitrate, but the claims are unlimited as to any amounts of silver nitrate, or indeed,

any ingredients. This is in part due to the broad “comprising” scope, but also to the general lack of definition regarding what the amounts and ingredients are. This is further shown by applicants’ opinion criticisms of the references applied (but without factual or experimental basis of inoperability or unsuitability) which references contain all that is concretely claimed, and with no facts of record supporting the arguments. Applicants’ specification suggests that the results in this area are unpredictable; for example see specification page 16, lines 26-32, where the composition is identical, but differing solely by the amount used, results in varying autoignition behaviors. The specific (as opposed to descriptive) examples all include molybdenum, with only allegations for other metals, e.g., see the last sentence of specification page 11, as well as page 13, lines 4-6. These are exemplary of how the specification does not reasonably enable the claimed invention. See, for example, *Ex parte Karol* (BdPatApp&Int) 8 USPQ2d 1771, where in a similar situation, applicant included overbroad claims that were essentially an “invitation to experiment.” Thus, the specification does not reasonably enable one of ordinary skill to practice the invention as broadly claimed, lacking amounts, ratios, etc., to obtain the desired performance claimed. With more limited claims, a different result might be reached as to limited claims to silver nitrate oxidizer with molybdenum fuel, e.g., but here the claim scope remains “comprising” and ingredients are essentially unlimited.

5. In the following art rejections, the claims are read as being of broad “comprising scope”, as set forth above. The arguments of applicants are not persuasive of error, in part since the claims are not reasonably definite. The references teach and suggest compositions which would appear to inherently autoignite at low temperatures. Mere allegations or attorney argument do not serve to overcome the rejections below.

Where the product appears to be the same or only slightly different, the properties recited would appear to be inherent. The Office does not have testing facilities to determine such. The burden falls on applicant to show that the prior art products do not necessarily or inherently possess the claimed properties. *In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 966; *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596; *In re Best*, 562 F.2d 1252, 1255; 195 USPQ 430, 433-434; *In re Brown*, 459 F.2d 531, 173 USPQ 685.

As to the preamble argument, other cases hold to the contrary; this is a fact based determination. Here, the preamble is but an intended use on the one hand and an inherent capability on the other. Compare *In re Tuominen*, 213 USPQ 89 (CCPA 1982), where the preamble was found to be an intended use, not a structural limitation. This issue is tied up with the indefinite claim language; it is not proper for indefiniteness to define over prior art. There are no showings of any compositions not autoigniting. Indeed, autoignition is a well known “feature,” inherent in all compositions in the art. See, e.g., Hillstrom, col. 1 for ammonium nitrate, and Scheffee et al.

It has been held improper, indeed, reversible error, to rely on speculation as to the meaning of indefinite claims, and then reject that speculative meaning on prior art. *In re Steele*, 305 F.2d 858, 134 USPQ 292 [CCPA 1962], *Ex parte Brummer*, 12 USPQ2d 1653 at 1655 [USPTO BOPAI 1989]. Therefore, the following art rejections are not intended as complete, but are to advance prosecution.

6. Claims 1, 13-18 and 26-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sammons et al., in view of Sidebottom, Garner et al., Healy and Ellern et al., for reasons set forth in Paragraph 2 of Paper No. 13, incorporated herein by reference.

7. Claims 1, 13-18 and 26-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halliday et al., in view of Tepper and Ellern et al., for reasons set forth in Paragraph 3 of Paper No. 13, incorporated herein by reference.

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8. Claims 1, 13-18 and 26-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Poole et al. '380, in view of Ferrando et al., Katzakian et al., Halliday et al., and Yabsley et al., for reasons set forth in Paragraph 5 of Paper No. 13, incorporated herein by reference.

9. Claims 1, 13-15 and 26-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halliday et al., for reasons set forth in para. 6 of Paper No. 13, incorporated herein by reference.

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1, 13-18 and 26-32 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-26 of U.S. Patent No. 5,959,242. Although the conflicting claims are not identical, they are not patentably distinct from each other because of clear overlap. This rejection is not overcome, see the next paragraph.

12. The terminal disclaimer filed on February 21, 2003, disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US Patent No. 5,959,242 has been reviewed and is NOT accepted. The person who signed the terminal disclaimer is not recognized as an officer of the assignee, and he/she has not been established as being authorized to act on behalf of the assignee. See MPEP § 324. An attorney or agent, not of record, is not authorized to sign a terminal disclaimer in the capacity as an attorney or agent acting in a

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representative capacity as provided by 37 CFR 1.34 (a). See 37 CFR 1.321(b) and/or (c). Attorney Alan Force, who signed the submitted disclaimer, does not appear to be "of record."

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Chemical Abstracts documents further show information on science issues including the unpredictability of pyrotechnic reactions. The patents newly cited in Paper No. 17 teach compositions with silver nitrate, and on low temperature melting or igniting compositions.

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

15. Any inquiry concerning either this or an earlier communication from the Examiner should be directed to Examiner Edward A. Miller at (703) 306-4163. Examiner Miller may normally be reached Monday-Thursday, from 10 AM to 7 PM.

If attempts to reach Examiner Miller by telephone are unsuccessful, his supervisor Mr. Carone can be reached at (703) 306-4198. The Group fax number is (703) 305-7687.

If there is no answer, or for any inquiry of a general nature or relating to the application status, please call the Group receptionist at (703) 308-1113.

Miller/em
July 9, 2003



EDWARD A. MILLER
PRIMARY EXAMINER